

Publication

EP 0724498 A4 19960828

Application

EP 94929927 A 19940930

Priority

- US 9411008 W 19940930
- US 12941493 A 19930930

Abstract (en)

[origin: WO9509068A1] Full field mask illumination enhancement methods and apparatus for high power laser systems. Laser (20) emission is focused to a small area to pass through a small hole (24) in an end plate (26) in a highly reflective light pipe (28). The exit end of the light pipe (28) is imaged onto a telecentric lens (32) adjacent a mask or reticle (34), which mask or reticle (34) is highly reflective except where defining areas for ablation. Laser emission passing through the reticle (34) is imaged onto a workpiece (40), while light reflected by the reticle (34) substantially retraces either its own ray path or that of another ray impinging on the same area of the reticle (34). Light reflected back into the light pipe (28) generally misses the small hole (24) therein, most of it being repeatedly re-reflected by the light pipe (28) and end plate (26) back to the reticle (34) to reuse the same by repeatedly bathing the reticle (34) in the laser emission.

IPC 1-7

B23K 26/06

IPC 8 full level

B23K 26/06 (2006.01); **G03F 7/20** (2006.01)

CPC (source: EP KR US)

B23K 26/06 (2013.01 - KR); **B23K 26/066** (2015.10 - EP KR US); **G03F 7/2006** (2013.01 - EP US); **G03F 7/70058** (2013.01 - EP US); **G03F 7/70075** (2013.01 - EP US); **H01S 3/034** (2013.01 - KR)

Citation (search report)

- [A] WO 8905208 A1 19890615 - OLSEN FLEMMING [DK]
- See references of WO 9509068A1

Cited by

DE102013204442A1; WO2014139881A1; US9671548B2; US10254466B2

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

WO 9509068 A1 19950406; AU 7921894 A 19950418; CA 2173141 A1 19950406; DE 69407613 D1 19980205; DE 69407613 T2 19980604; EP 0724498 A1 19960807; EP 0724498 A4 19960828; EP 0724498 B1 19971229; HK 1008732 A1 19990514; KR 100259969 B1 20000615; KR 960704673 A 19961009; SG 45356 A1 19980116; US 5601733 A 19970211

DOCDB simple family (application)

US 9411008 W 19940930; AU 7921894 A 19940930; CA 2173141 A 19940930; DE 69407613 T 19940930; EP 94929927 A 19940930; HK 98108786 A 19980629; KR 19960701665 A 19960330; SG 1996004472 A 19940930; US 31654194 A 19940930